

AMENDMENTS TO THE DRAWINGS

The two (2) attached sheets of drawings include changes to Figure 1B and a new Figure 6, respectively.

The sheet containing the amended Figure 1B, replaces the original sheet including Figure 1B. Amended Figure 1B has been amended to clearly identify and present the current supply wiring 9.

The sheet containing new Figure 6, does not replace or amend any pending sheets. New Figure 6 is a plan view showing flat-cut portions of the rotor core.

Attachment: One (1) Replacement Sheet and one (1) New Sheet.

REMARKS

This paper is submitted in response to the pending Office Action mailed on March 4, 2008. Because this Response is submitted with a Petition for a one month Extension of Time, a check for \$120.00 set forth under 37 C.F.R. §1.17(a)(1) and a certificate of electronic filing in compliance with 37 C.F.R. §1.8 on or before the shortened period for reply set to expire on **July 4, 2008**, this Response is timely filed.

I. STATUS OF THE CLAIMS

Prior to this Response, claims 1 to 10 were pending and at issue. By this Response, independent claim 1 has been amended, none of the pending claims have been canceled, and no new claims have been added. Support for the amendments to independent claim 1, may be found at least at in FIG 3A and paragraph **[0018]** of this specification. For at least this reason, Applicant submits that no new matter has been added via the amendment to independent claim 1. Thus, claims 1 to 10 remain pending and at issue in this application.

While Applicants believe that no additional fees, in excess of the fee set forth under 37 C.F.R. §1.17(a)(1), are due in connection with this application, Applicants direct the Office to charge **Deposit Account No. 23-1925 (08285-00846)** for any fees deemed owed during the pendency of this application, excluding the issue fee.

II. OBJECTIONS

The Office Action objects to the figures under 37 C.F.R. 1.83(a). Figure 1B has been amended based on at least the description and information provided in paragraph **[0018]** and Figure 3A. The current supply wiring 9 illustrated in revised Figure 1B is clearly discernible and understandable at least from the original disclosure at the bottom of paragraph **[0017]**.

New Figure 6 is added herein to address the pending objection and clearly illustrate the claimed flat-cut surface. Support for the new Figure 6 may be found, at least, in the disclosure stating that the "facing surfaces of the salient poles of the rotor core 3 at the circumferential end portions, which face the permanent magnets 1a and 1b, may be formed in the shapes of flat-cut surfaces." (See paragraph **[0027]**, second to last line, in the amended paragraph **[0027]** or last line in the original paragraph **[0027]**.) In light of the amendment to Figure 1B and the new

Figure 6, Applicant respectfully requests withdrawal of the pending objection and entrance of the Figures 1B and 6.

III. REJECTIONS

The Office Action rejects: claims 1 and 3 under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 5,497,039 to Blaettner et al. ("*Blaettner*") in view of U.S. Patent No. 4,099,104 to Muller ("*Muller*"); claims 3 to 7 and 9 under 35 U.S.C. §103 as obvious over *Blaettner* in view of *Muller* and further in view of U.S. Patent No. 6,708,388 to Yamashita et al. ("*Yamashita*"); claim 8 under 35 U.S.C. §103 as obvious over *Blaettner* in view of *Muller* and further in view of Japanese patent reference JP 09-163708 to Nitta et al ("*Nitta*"); and claim 10 under 35 U.S.C. §103 as obvious over *Blaettner* in view of *Muller* and further in view of U.S. Patent No. 4,296,341 to Guttinger ("*Guttinger*").

Applicant respectfully traverses the rejection of claims 1 to 10 as obvious over the combination of *Blaettner* and *Muller*, either alone or in combination with one or more of *Yamashita*, *Nitta* and/or *Guttinger*. In particular, amended independent claim 1 recites, in relevant part, a proportional rotary torquer that includes a rotor having a rotor core which plural salient poles are formed at, and one or more rotor coils are wound around, wherein the distance from the radial outline of the center portion of each of the salient pole to the rotation center of the rotor core is not more than 99% of the distance from the radial outline of the circumferential end portion of each of the salient pole to the rotation center of the rotor core, and wherein the angle between the line connecting one of the circumferential outlines of the salient pole and the rotation center of the rotor core and the line connecting the other circumferential outline of the same salient pole and the rotation center of the rotor core is not less than 100 degrees. The disclosed configuration of the rotor, and in particular salient pole(s) relative to the rotation center, ensures that the magnetic flux does not concentrate at the circumferential center portion of the salient pole(s) and magnetic flux can be efficiently generated from the vicinity of the circumferential end portions of the salient poles. Furthermore, the disclosed configuration of the rotor provides that the salient pole(s) that generates magnetic flux can rotate in an angular range that exceeds ninety (90) degrees.

Contrary to the relied upon characterizations, the combination of *Blaettner* and *Muller* does not disclose the claimed configuration much less provide the advantages resulting therefrom. The Office Action at page 5, lines 1 to 9, alleges that *Muller* discloses a rotor having a rotor core which plural salient poles are formed at, and one or more rotor coils are wound around, wherein the distance from the radial outline of the center portion of each of the salient pole to the rotation center of the rotor core is not more than 99% of the distance from the radial outline of the circumferential end portion of each of the salient pole to the rotation center of the rotor core, and wherein the angle between the line connecting one of the circumferential outlines of the salient pole and the rotation center of the rotor core and the line connecting the other circumferential outline of the same salient pole and the rotation center of the rotor core is not less than 100 degrees. However, the Office Action simply identifies Figure 10 of *Muller* and relies on hindsight reconstruction to provide the details lacking from the relied upon figure. Moreover, of the disclosure of *Muller* further fails to provide the disclosure lacking from the relied upon Figure 10. Thus, *Muller* fails to disclose that the distance from the radial outline of the center portion of each of the salient pole to the rotation center of the rotor core is not more than 99% of the distance from the radial outline of the circumferential end portion of each of the salient pole to the rotation center of the rotor core, much less that the angle between the line connecting one of the circumferential outlines of the salient pole and the rotation center of the rotor core and the line connecting the other circumferential outline of the same salient pole and the rotation center of the rotor core is not less than 100 degrees.

None of the relied upon references provides the teaching or disclosure missing from *Muller*. For example, *Blaettner*, as acknowledged in the Office Action at page 4, lines 14 to 21, does not provide the teaching or disclosure missing from *Muller*. *Yamashita* is simply concerned with the configuration of the permanent magnets and does not recite the claimed configuration of the rotor and associated salient pole(s). *Nitta*, like *Yamashita*, is simply concerned with the configuration of the permanent magnets and does not disclose the claimed configuration of the rotor and associated salient pole(s). Similarly, *Guttinger* discloses elastic members and is silent regarding the claimed configuration of the rotor and associated salient pole(s).

Because none of the cited references discloses or even suggests a rotor having a rotor core which plural salient poles are formed at, and one or more rotor coils are wound around, wherein the distance from the radial outline of the center portion of each of the salient pole to the rotation center of the rotor core is not more than 99% of the distance from the radial outline of the circumferential end portion of each of the salient pole to the rotation center of the rotor core, and wherein the angle between the line connecting one of the circumferential outlines of the salient pole and the rotation center of the rotor core and the line connecting the other circumferential outline of the same salient pole and the rotation center of the rotor core is not less than 100 degrees, no combination or modification of these references will include or provide these missing elements. Thus, any of the relied upon combinations of *Blaettner* and *Muller*, either alone or in combination with one or more of *Yamashita*, *Nitta* and/or *Guttinger*, will be insufficient and unable to establish a *prima facie* case of obviousness. For at least these reasons, Applicant submits that claims 1 to 10 are patentable over the cited references and respectfully requests withdrawal of the pending rejections.

IV. CONCLUSION

For the foregoing reasons, Applicant submits that the above-identified patent application is now in condition for allowance and earnestly solicits reconsideration of same. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting prosecution of this application.

Respectfully submitted,
BRINKS HOFER GILSON & LIONE

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